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CITATION:

MAEKAWA, Shinya ...[et al]. A case of exophytic hepatic hemangioma mimicking adrenal tumor. 泌尿器科紀要 1997, 43(2): 123-126

ISSUE DATE:

1997-02

URL:

http://hdl.handle.net/2433/115905

A CASE OF EXOPHYTIC HEPATIC HEMANGIOMA MIMICKING ADRENAL TUMOR

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A rare case of exophytic hepatic hemangioma preoperatively diagnosed as a non-functioning adrenal tumor is reported. A 62-year-old man was admitted for treatment of primary hyperparathyroidism and an incidental adrenal tumor. A 4.0×2.5 cm heterogeneous tumor located between the liver and the right kidney was detected by abdominal ultrasonography, computed tomography and magnetic resonance imaging. Color doppler images revealed no apparent blood flow. Since the tumor seemed to have originated from the liver under laparoscopy, an open partial hepatectomy was performed. Histopathological examination revealed cavernous hemangioma of the liver. When diagnosing non-functioning right adrenal tumor, it may be necessary to carefully rule out an exophytic liver tumor.

(Acta Urol. Jpn. **43** : 123–126, 1997)

Key words : Hepatic hemangioma, Adrenal tumor

INTRODUCTION

Although hemangioma is the most common benign tumor of the liver, the pedunculated or exophytic growth is rare [1,2] We experienced a patient with an exophytic hepatic hemangioma mimicking an adrenal tumor. Because of the unexpected origin of the tumor, we had to change the operative procedure from laparoscopic surgery to open surgery.

CASE REPORT

A 62-year-old man was admitted to our department for hypercalcermia and an incidental abdominal tumor revealed by computed tomography (CT). aThe swelling of the left upper parathyroid gland was revealed by several imagings. Ultrsonography (US) revealed a heterogeneous abdominal tumor without blood flow on color doppler imaging. Abdominal enhanced CT revealed a 4.0×2.5 cm heterogeneous mass between the liver and the right kidney (Fig. 1). The intensity of the tumor was low in T1-weighted magnetic resonance imaging (MRI) and high in T2-weighted imaging (Fig. 2). Adrenal functions were within normal limits. ^{131}I-aldosterol scintigraphy revealed a normal distribution. Liver function and the level of serum α-fetoprotein were within the normal range. Medullary carcinoma of the thyroid gland was denied because the level of serum calcitonin and carcinoembryonic antigen were within the normal range and MRI of the thyroid gland revealed no definite lesions. Therefore, Sipple syndrome was denied and preoperative diagnoses were adenoma of the left upper parathyroid gland and a right non-functioning adrenal tumor. Resection of parathyroid adenoma was performed. Three weeks later, laparoscopic laparotomy was performed. The tumor was located on the lower surface of the liver and connected with the normal part of the right adrenal gland. Since it was difficult to strip the tumor from the liver, adrenal vessels were cut and the normal portion of the adrenal gland was separated (Fig. 3). When ablating the tumor, no connecting vessels were found between the tumor and the normal adrenal gland. Since the tumor seemed to have originated from the liver and laparoscopic resection of the tumor was thought to be impossible technically, open partial hepatectomy was performed. Many vessels of the liver fed the tumor. Histopathological examination demonstrated the cavenous hemangioma of the liver (Fig. 4). The patient is alive without evidence of disease four months after the operation.

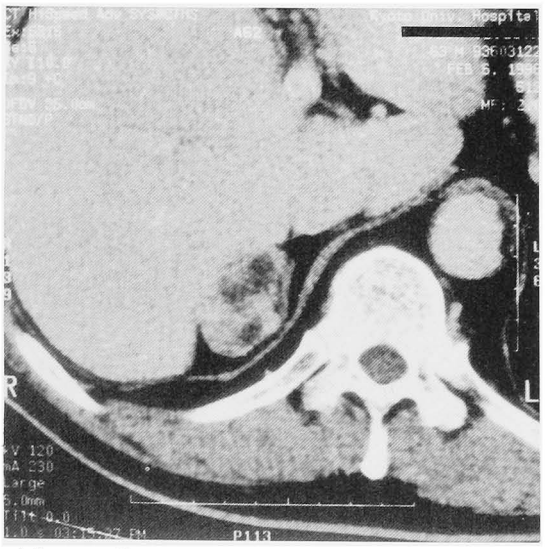

Fig. 1. Enhanced CT. A heterogeneous tumor was located beneath the liver.

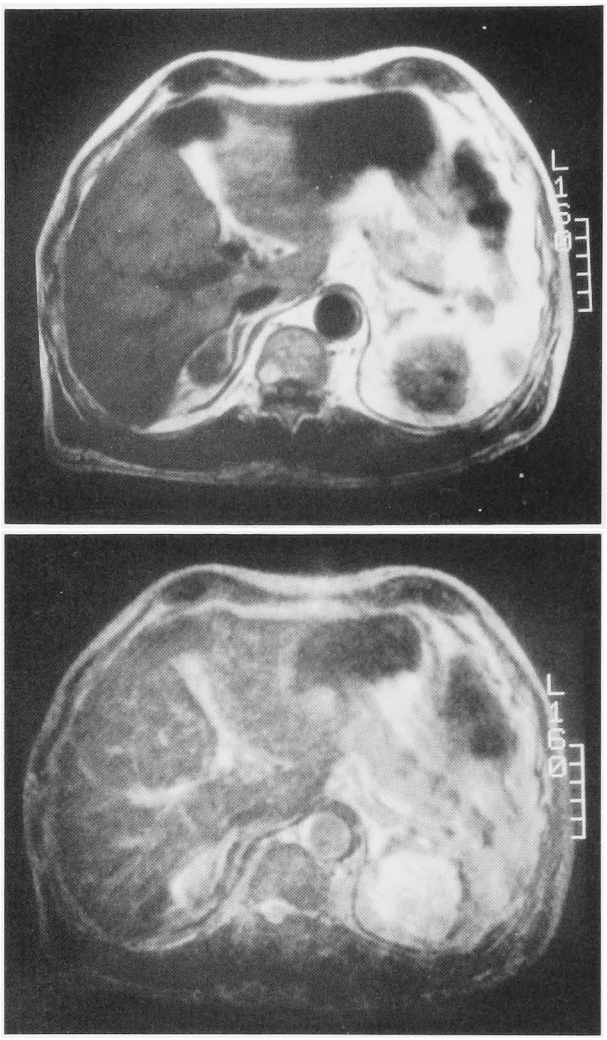

Fig. 2. MR images. Upper. T1-weighted. The tumor showed low intensity. Lower. T2-weighted. The tumor was hyperintense.

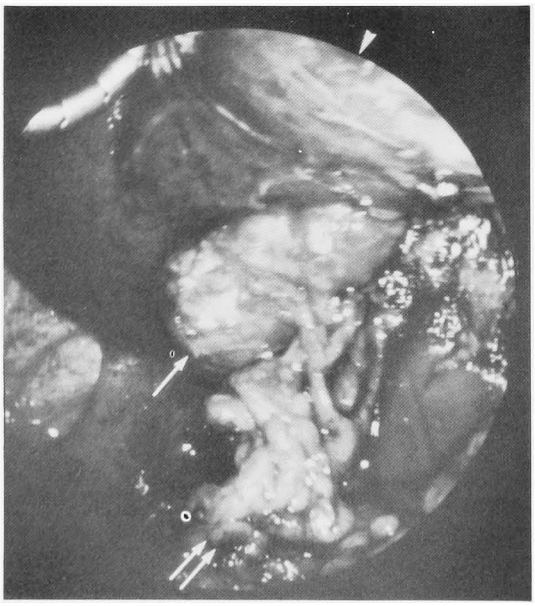

Fig. 3. Laparoscopic finding. Single arrow shows the tumor. Double arrows show the adrenal gland. Arrowhead shows the liver.

DISCUSSION

Although hemangioma is the most common benign tumor of the liver, its extrahepatic growth is rare[1,2] Pedunculated hepatocellular carcinoma is also relatively rare and it might arise from an accessory lobe or an ectopic liver tissue[3] There are several reports of

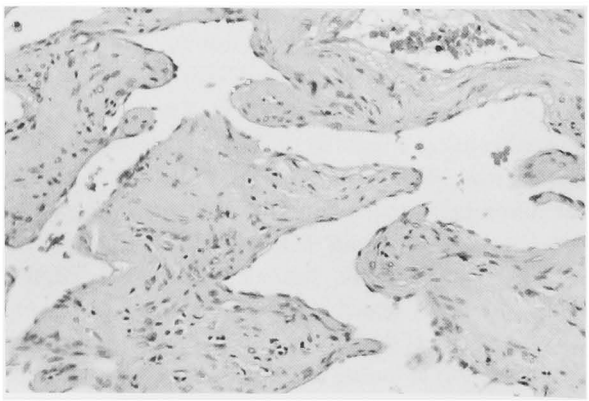

Fig. 4. Microscopic finding. Cavernous hemangioma was observed (H.E. stain, ×200).

hepatocellular carcinoma preoperatively diagnosed as an adrenal tumor[4,5] To our knowledge, this is the second case of hepatic hemangioma preoperatively diagnosed as adrenal tumor. In the first case report, the 11×8×6 cm pedunculated tumor arose from the posterior aspect of the right lobe of the liver and it was interpreted as a right adrenal carcinoma preoperatively[2].

However, the hyperechoic pattern is a common US finding of hepatic hemangioma and either hypoechoic or mixed type is also observed in some cases[6] In color doppler imaging, blood flow is measurable in approximately 30% of the cavenous hemangiomas of the liver[7,8] Adrenal carcinoma generally shows a heterogeneous pattern on US[9]. The CT characteristic of hepatic cavernous hemangioma is a dense accumulation of contrast medium which spreads in all directions within the mass on sequential scans[6] Adrenal carcinoma often shows irregular internal consistency on enhanced CT[10]. Hepatic hemangiomas and adrenal carcinoma show low intensity on T1-weighted MRI and high intensity on T2-weighted MRI[11,12] In our case, US, enhanced CT and MRI findings are compatible with both hepatic hemangioma and right adrenal carcinoma. However, we diagnosed the tumor as right adrenal carcinoma because it was located between the liver and the right kidney. The bare area of the liver opens widely into the superior aspect of the perirenal space, therefore, a tumor located on the bare area of the liver might extend to the right adrenal gland[4]. In our case, the tumor was located there and extended to the adrenal gland, thus mimicking a right adrenal tumor. We should have performed dynamic CT, coronal or sagittal section of MRI or angiography preoperatively to distinguish between a right adrenal tumor and a hepatic tumor.

In conclusion, the extrahepatic growth of a hepatic tumor is rare, but the abdominal mass between the liver and a kidney should be differentiated from exophytic or pedunculated hepatic tumor.

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(Received on August 19, 1996
Accepted on October 4, 1996)

和文抄録

副腎腫瘍と鑑別が困難であった肝血管腫の1例

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術前副腎腫瘍と鑑別が困難であった肝血管腫の1例を報告する．症例は62歳男性．原発性副甲状腺機能亢進症およびCTにて偶然発見された腹部腫瘤の精査加療のため当科受診．超音波断層法，CT，MRIにて4.0×2.5 cmの内部不均一な腫瘍を肝と右腎の間に認めた．超音波カラードプラ法では明らかな血流を認めず，副腎機能は正常であった．原発性副甲状腺機能亢進症および内分泌非活性型副腎腫瘍の診断にて，まず副甲状腺腺腫摘除術を施行した．その3週間後腹腔鏡的右副腎摘除術を施行したところ，腫瘍は肝より発生しており，開放的肝部分切除術を施行した．腫瘍は病理組織にて肝海綿状血管腫であった。内分泌非活性型副腎腫瘍の鑑別診断の1つとして肝腫瘍を考慮する必要があると思われた．

（泌尿紀要 **43**：123-126，1997）